

**REMARKS**

Upon entry of this reply, claims 1, 4 and 8, will be amended, and claims 1-10 will remain pending. Claims 1, 4 and 8 are independent claims.

Support for the amendments to the claims appears in the originally filed application, including paragraph [0023] and includes language similar to that appearing in claim 8 prior to the present amendment. Accordingly, this amendment should be entered after final rejection because it seeks to advance prosecution of the application to allowance while including similar issues to those already examined by the examiner when reviewing the previously filed amendment.

Reconsideration and allowance of the application are respectfully requested.

**Information Disclosure Statements**

Applicants express appreciation for the inclusion with the Office Action of an initialed copy of the Form PTO-1449 submitted with the Supplemental October 10, 2007, whereby the Examiner's consideration of the Supplemental Information Disclosure Statement and the information cited therein is of record.

Applicants note that the form is not completely initialed in that the Other Documents section of the form has apparently inadvertently not been initialed. Accordingly, Applicants are submitting herewith another copy of the form, and request that the Examiner forward a completely initialed form with the next communication from the Patent and Trademark Office.

**Art Based Rejections**

The following art based rejections are set forth in the Office Action:

(a) Claims 1-4 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusano, U.S. Patent No. 6,508,647, in view of Schibler et al., U.S. Patent No. 2,986,542.

(b) Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kusano, U.S. Patent No. 6,508,647, in view of Schibler et al., U.S. Patent No. 2,986,542, and further in view of Caizza, U.S. Patent No. 6,964,737.

Applicant notes that the rejections in the Final Office Action are similar to those utilized in the first Office Action; however, the rejections are presently using Schibler in an attempt to establish obviousness of incorporating an ion conductive paste with thixotropic properties in Kusano.

However, Applicant submits that one having ordinary skill in the art would not seek to combine the disclosure of Kusano and Schibler. Moreover, even if for the sake of argument the disclosures of Kusano and Schibler were combined, any proper combination of Kusano and Schibler would not arrive at Applicant's disclosed and claimed subject matter.

Kusano is directed to paste formulations for dental use. The paste formulations of Kusano may be formulated by mixing a suitable electric conductive material to conventional compositions for forming of calcium hydroxide paste, zinc eugenol pasta, iodoform paste, paraform-formaline paste. In contrast, Schibler is directed to pigmented resin lacquers dispersible in aqueous media for the textile, leather and paper industries. There is absolutely no indication in Schibler that pigmented resin lacquers as disclosed

therein have any use in a medical context, such as dental use. One having ordinary skill in the art would not look to the disclosure of Schibler for determining compositions that may be useful as a paste formulation for dental use as disclosed by Kusano.

Applicant submit that Schibler is in a field of endeavor different from that of Applicant's, and is not reasonably pertinent to the matter with which Applicant's claimed subject matter pertains, and is therefore not analogous art to be properly used in an obviousness rejection.

Therefore, if this ground of rejection is maintained, the Examiner is respectfully requested to provide an explanation as to how Schibler can be considered to be analogous prior art that is properly utilizable in an obviousness rejection.

Still further, the water curable dispersions of Schibler include organic solvents with limited miscibility with water. Schibler's dispersions would not appear to be ion-conductive due to presence of organic solvent which are disclosed to have at most limited miscibility with water, such as disclosed in Schibler at column 1, lines 65 *et seq.*, and column 2, lines 17 *et seq.* and 50 *et seq.* Thus, even if for the sake of argument one having ordinary skill in the art would have combined the disclosures of Kusano and Schibler, amongst other features recited in Applicant's claims, there would not be present a thixotropic ion conductive paste. In contrast, there would at most be present an oil-in-water emulsion of water-insoluble hardenable resinous aminoplasts as disclosed by Schibler.

Still further, Applicant submits that one having ordinary skill in the art would not arrive at a thixotropic ion conductive paste having a viscosity from 0.1 Pa-s to 5 Pa-s in accordance with Applicant's dependent claims 7 and 9. The rejection contends that such

a recited range would have been obvious to one having ordinary skill in the art based upon discovering optimum or workable ranges. However, under the present circumstances, the prior art does not involve the general conditions recited in Applicant's claims, especially when Kusano does not disclose a thixotropic ion conductive paste, and Schibler discloses a "wide variety of purposes in the textile, leather and paper industries".

The Examiner is further reminded that according to the present invention, the ion conductive paste contained in the syringe has sufficient thixotropic character rather than mere viscosity. A viscous liquid having only viscosity, and not thixotropy, does not have the characteristic of maintaining a layer for sufficient a time duration because such a viscous liquid flows according to its viscosity even though viscosity is high. This does not ensure the providing of a thick layer on a caries tooth. However, the thixotropic ion conductive paste according to the present invention provides thixotropic characteristics. The term "thixotropic" means "changing viscosity with respect to movement". A thixotropic fluid exhibits non-linear viscosity with respect to its movement; in low movements, viscosity becomes high and in high movements, the viscosity becomes low.

According to the present invention, the diagnosis of the exposed pulp can be conducted through the thick and stable layer of the aqueous dispersed ion conductive paste with the exclusion of the contact to the caries part of the damaged tooth so that severe stimulation to a patient can be prevented and unexpected additional damage onto the damaged tooth can be avoided. Still further, the thixotropic aqueous dispersed ion conductive paste can be easily washed away after being layered on a tooth.

Furthermore, the present invention can avoid contact to the damaged tooth and avoid unexpected damage to a healthy tooth during diagnosis of pulp exposure by contacting a hard tip of the dental needle.

Regarding the rejection of claim 5, Applicant submits that whether or not one having ordinary skill in the art would have included a syringe having a discharge part made of silicone rubber in the asserted combination of Kusano and Schibler and Caizza, any combination these documents would not arrive at Applicant's claimed combination for at least the reasons set forth above.

Additionally, each of the dependent claims is patentable over the prior art of record at least for the reasons set forth above and for the combination of features recited in the dependent claims.

Accordingly, the rejections of record are without appropriate basis and should be withdrawn.

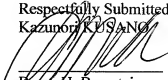
**CONCLUSION**

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections of record, and allow all the pending claims.

Allowance of the application is requested, with an early mailing of the Notices of Allowance and Allowability.

If the Examiner has any questions or wishes to further discuss this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number

Respectfully Submitted,  
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